

TECHNICAL REVIEW AND EVALUATION
OF
AIR QUALITY PERMIT # 45622
The Fairfax Companies, LLC

I. INTRODUCTION

This air quality control renewal permit is for the operation of a chipping/grinding plant. This is a portable facility operated at the Speedway Construction Debris Landfill in Tucson and the El Mirage Landfill in El Mirage. This permit renews and supersedes operating Permit #1001434.

Company Information

1. Mailing Address: The Fairfax Companies, LLC
P. O. Box 31748
Tucson, AZ 85751
2. Facility Address: Speedway Landfill
7301 E. Speedway Blvd.
Tucson, AZ 85751

El Mirage Landfill
4545 N. El Mirage Rd.
Litchfield Park, AZ 85340

II. FACILITY DESCRIPTION

The chipping and grinding plant equipment are used to grind/mulch wood waste, and certain other inert construction and demolition (C & D) debris materials (i.e. wallboard, plastic, glass, roofing materials, cardboard, etc.). These items are separated from the inert waste stream deposited at the facility. Materials that are not suitable for grinding/mulching (i.e. steel, aluminum, copper, concrete, concrete block, rock, brick, etc.) are separated for recycling, or otherwise managed in accordance with applicable disposal regulations. Materials scheduled for grinding/mulching are loaded into the crusher hopper, from which it is conveyed to the rotor (hammer mill) by means of the inlet feed-belt conveyor. The hammer mill, forces the material through the processing screens, where it is ground/crushed to a specific particle size, depending on the selected screen opening size. Material is then passed onto the discharge conveyor belt, which carries the ground/crushed material to the discharge stacker. The discharge stacker is hinged at the forward end of the crushing and screening plant, which allows the operator to hydraulically adjust the elevation (4-feet to 15-feet elevation from ground surface) of the discharge end point. Material is discharged into a pile on the landfill subgrade. The material is either loaded in trucks and hauled off site for reuse/resale or pushed to the working face and landfilled at the site. Spray bars are located at the discharge stacker end point for fugitive emissions control. Dust control is conducted on material stockpiles and haul roads by means of an on-site water tanker truck.

III. COMPLIANCE HISTORY

There are no cases associated with this facility.

IV. LEARNING SITES EVALUATION

In accordance with ADEQ's Environmental Permits and Approvals Near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools at the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

The Department did not identify any learning sites within two miles of the El Mirage Landfill site.

The Department identified twenty-four impacted Learning Sites near the Speedway Landfill site. The impacted sites are as follows: Booth Magnet Elementary School, Booth-Fickett Math/Science Magnet School, Amerischools College Preparatory Academy, Bloom Elementary School, Eastpointe High School, Fruchthendler Elementary School, Hudlow Elementary School, La Paloma Academy, Magee Middle School, Sahuaro High School, Schumaker Elementary School, Tag Elementary, Tucson Accelerated High School, Van Horne Elementary School, Wrighttown Elementary School, Old Pueblo Children's Academy, Pima Community College, Pantano Middle School, Tucson Accelerated High School, Desert Christian High School, Grace Christian School, St. Michael's & An Angels Day, New Hope Christian Academy, Desert Trail School.

The Department has reviewed the emission sources at the facility and has determined that the operation of the facility will not adversely affect the learning sites.

IV. EMISSIONS

Pollutant	Emissions (tpy)
PM ₁₀	2.01
SO ₂	7.68
NO _x	92.16
VOC	9.60
CO	21.12

V. APPLICABLE REGULATIONS

The Permittee has identified the applicable regulations that apply to each unit in its permit application. The following table summarizes the findings of the Department with respect to the regulations that are applicable to each emissions unit.

Applicable Regulations

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Generators	1999 2004	None	<u>A.A.C.</u> R18-2-719.B R18-2-719.C.1 R18-2-719.E R18-2-719.F R18-2-719.H R18-2-719.I R18-2-719.J	Each generator is over 325 hp and is therefore required to be permitted in accordance with A.A.C. R18-2 302.B.2.a.iv. Since the generators were manufactured before 2006, no NSPS requirements apply. They are therefore subject to A.A.C. R18-2-719, standards of performance for existing stationary rotating machinery.
			<u>Pima County Code (P.P.C.)</u> §§17.16.340	The generators are subject to Pima County Code §§17.16.340. They were however streamlined because A.A.C. R18-2-719 regulations are just stringent.
			<u>Maricopa County Rule (M.C.R)</u> Rule 324	Maricopa County Rule 324 – Stationary Internal Combustion (IC) Engines- Establishes limits for the emissions of carbon monoxide, nitrogen oxides, sulfur oxides, volatile organic compounds, and particulate matter from stationary internal combustion engines, including stationary engines used in cogeneration.
Chipper/Grinder	1999 2004 2004	None	<u>A.A.C.</u> R18-2-702.B.3 R18-2-730.A.1 R18-2-730.B	The crusher/grinders are used to pulverize wood waste, inert construction debris and demolition debris materials. This type of material is qualifies as an unclassified process source. Therefore they are subject to A.A.C. R18-2-730, Standards of Performance for Unclassified Sources.

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Fugitive Dust Sources	N/A	Water and other reasonable precautions	<u>A.A.C.</u> R18-2-2-702 Article 6	These standards are applicable to all fugitive dust sources.
			<u>M.C.R.</u> Rule 310	Maricopa County Rule 310-Fugitive Dust from Dust-Generating Operations. Establishes limits for the emissions of particulate matter into the ambient air from any property, operations, or activity that may serve as a fugitive dust source.
			<u>P.C.C.</u> §§17.16.060 §§17.16.080 §§17.16.090 §§17.16.100	Fugitive dust producing activities. Vacant lots and open spaces. Roads and Streets Particulate materials
Mobile Sources	N/A	Water Sprays/Water Truck for dust control	<u>A.A.C.</u> Article 8	Article 8 is applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization.
			<u>M.C.R.</u> Rule 200§410	Maricopa County Rule 200§410 was included in the Mobile Sources Section covering Article 8 to streamline the document since the conditions are identical.
			<u>P.C.C.</u> §§17.12.300	The facility is also subject to Pima County Code §§17.16.340 but the regulations were streamlined because Article 8 of the A.A.C is just as stringent.
Spray Painting Operations	N/A	N/A	<u>A.A.C.</u> R18-2-727	Arizona Administrative Code R18-2-727 standard is applicable to any spray-painting operation.

Unit ID	Year of Manufacture	Control Equipment	Applicable Regulations	Verification
Spray Painting Operations	N/A	N/A	<u>M.C.R.</u> Rule 315	Maricopa County Rule 315 establishes a limit for the emission of particulate matter to the atmosphere from spray coating operations.
Demolition/ Renovation Operations	N/A	N/A	<u>A.A.C.</u> R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.
Abrasion Blasting	N/A	N/A	<u>A.A.C.</u> R18-2-726 R18-2-702.B	Arizona Administrative Code R18-2-726 and 702.B are standards that are applicable to any activity relative to abrasion blasting operations.
			<u>M.C.R.</u> Rule 312§410	Maricopa County Rule 312§410 establishes limits for particulate emissions from abrasive blasting operations.

VI. MONITORING REQUIREMENTS

A. Chipper/Grinder Plant Requirement

Opacity

1. A certified EPA Reference Method 9 observer must conduct a monthly survey of visible emissions emanating from the chipper and grinder operation. If the opacity of the emissions observed appears to exceed the standard, the observer is required to conduct a certified EPA Reference Method 9 Observation. The Permittee must keep records of the initial survey and any EPA Reference Method 9 observations performed. These records must include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation.
2. If the observation shows a Method 9 opacity reading in excess of 20 percent, the Permittee must initiate appropriate corrective action to reduce the opacity below 20 percent. The Permittee is required to keep a record of the corrective action performed.

B. Internal Combustion Engines

1. Hourly Requirements

The Permittee must keep records of monthly totals of the hours of operation of each

internal combustion engine. At the end of each month, the Permittee is required to calculate and record a rolling 12-month total of the hours of operation.

2. Opacity

- a. The Permittee must keep records of fuel supplier certification. The certification must contain information regarding the name of fuel supplier and lower heating value of the fuel. These records must be made available to ADEQ upon request.
- b. A certified EPA Reference Method 9 observer must conduct a monthly survey of visible emissions emanating from the stack of the IC engines if in operation. If the opacity of the emissions observed appears to exceed the standard, the observer is required to conduct a certified EPA Reference Method 9 observation. The Permittee must keep records of the initial survey and any EPA Reference Method 9 observations performed. These records must include the emission point observed, name of observer, date and time of observation, and the results of the observation.
- c. If the observation results in a Method 9 opacity reading in excess of 40 percent, the Permittee is required to report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 40 percent. The Permittee must keep a record of the corrective action performed.

3. Sulfur Dioxide

- a. The Permittee must keep daily records of the sulfur content of the fuel being fired in the machine. The Permittee must keep records of the fuel supplier certifications to demonstrate compliance with the sulfur content limit specified in Condition II.E.1. The certification must contain the sulfur content of the fuel and the method used to determine the sulfur content of the fuel. These records must be made available to ADEQ upon request.
- b. The Permittee must report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8 percent.

4. Fugitive Dust Requirements

- a. A certified Method 9 observer must conduct a monthly visual survey of visible emissions from the fugitive dust sources. The Permittee is required keep record of the name of the observer, the location and date on which the observation was made, and the results of the observation.
- b. If the observer sees a plume from a fugitive dust source that on an instantaneous basis appears to exceed applicable opacity standard, then the observer shall if practicable, take a six-minute Method 9 observation of the visible emission.
 - i. If the six-minute opacity of the visible emission is less than or equal to applicable opacity standard, the observer must make a record of the following:
 - 1). Location, date, and time of the observation; and
 - 2). The results of the Method 9 observation.

- ii. If the six minute opacity of the visible emission exceeds applicable opacity standard, then the Permittee must do the following:
- 1). Adjust or repair the controls or equipment to reduce opacity to below the applicable stand; and
 - 2). Report it as an excess emission under Section XII.A of Attachment "A".

VII. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
CO	Carbon Monoxide
ft.	Feet
hp	Horsepower
hr	Hour
IC	Internal Combustion
lb	Pound
M.C.R.	Maricopa County Rule
NO _x	Nitrogen Oxide
P.C.C.	Pima County Code
PM	Particulate Matter
PM ₁₀	Particulate Matter Nominally less than 10 Micrometers
PTE	Potential-to-Emit
SO ₂	Sulfur Dioxide
TPY	Tons per Year
VOC	Volatile Organic Compound
yr	Year